SECTION IV.—RIVERS AND FLOODS.

RIVERS AND FLOODS, NOVEMBER, 1914.

By ALFRED J. HENRY, Professor of Meteorology, in charge of River and Flood Division.

[Dated: Washington, Dec. 26, 1914.]

The month was devoid of flood-producing rains in all parts of the country save in the South Atlantic States where moderately heavy and continuous rains for nearly 48 hours on the 14th and 15th and again on the 29th and 30th caused the streams to rise sharply, but in practically all cases the rise stopped a little short of the flood stage. No damage by high water was done.

SNOW SURVEY ON COTTONWOOD CREEK, IDAHO.

In March, 1914, a snow survey on the headwaters of Cottonwood Creek, Idaho, was made, under the direction of Section Director E. L. Wells, of Boise, Idaho.

The daily discharge of Cottonwood Creek from March 7 to September 30, is now available, through cooperation with the Water Resources Branch of the United States Geological Survey. The snow survey above-mentioned showed that in the early part of March snow water was present in the following amounts:

	Acre feet.
Below 4,000 feet	401.5616
4,000–5,000 feet	5,212.1344
5,000–6,000 feet	6,531.0720
Above 6,000 feet	3,098.9312
Total	15,243.6992

Mr. Wells says "The watershed is rather scantily forested and yet there are probably enough trees to affect the snow supply somewhat, though just what allowance sho ld be made is difficult to say." The records of the gaging station above-mentioned show that the total discharge March 7 to September 30, 1914, was 9,710 acre feet, or 64 per cent of the amount of snow water on the watershed in March."

The precipitation subsequent to the date of the snow survey, as measured at a point in the lower portion of the watershed, aggregated for the period in question 7.17 inches. Mr. Wells estimates that the precipitation of the entire watershed was 50 per cent greater than this amount, or 10.76 inches, which is equivalent to 15,149 acre feet for the watershed. Since, however, the great bulk of the precipitation was in the form of small showers, generally less than a quarter of an inch—in the seven months there were but six showers that gave 0.40 inch or more—so that the effective precipitation must have been only about 4,000 acre-feet. This, added to the snow water present in March, gives a total of 19,444 acre-feet. The measured discharge, as before stated, was 9,710 acre-feet, or less than 50 per cent of the approximate amount of snow water plus the precipitation March to September, inclusive. The uncertain quantities in the above computations are: (1) The amount of snow water that evaporated; and (2) the run-off from the summer rainfall. The fact that the latter was mostly in the form of light showers makes it improbable that any considerable amount found its way into the stream.—[A. J. H.]

MEAN LAKE LEVELS DURING NOVEMBER, 1914.

By UNITED STATES LAKE SURVEY.

[Dated: Detroit, Mich., Dec. 4, 1914.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes.			
	Superior.	Michigan-Huron.	Erie.	Ontario.
Mean level during November, 1914:	*Feet.*	*Feet.*	*Feet.*	*Feet.*
Above mean sea level at New York	602.45	579.92	571.44	245.25
Above or below—				
Mean stage of October, 1914	−0.30	−0.36	−0.66	−0.34
Mean stage of November, 1913	−0.43	−0.55	−0.83	−0.81
Average stage for November, last 10 years	−0.09	−0.47	−0.43	−0.49
Highest recorded November stage	−1.06	−3.00	−2.23	−2.57
Lowest recorded November stage	−0.95	−0.74	−0.74	−1.84
Probable change during December, 1914	−0.2	−0.2	−0.1	−0.1